

Publication list

Refereed papers

1. K. Harada, T. Sugihara, M. Taniguchi, and M. Yahiro, "Massive Schwinger model with $SU(2)_f$ on the light cone", Phys. Rev. D 49, 4226 (1994).
2. T. Sugihara, M. Matsuzaki, and M. Yahiro, "Two-dimensional $SU(N)$ gauge theory on the light cone", Phys. Rev. D 50, 5274 (1994).
3. T. Sugihara and M. Yahiro, "Perturbative renormalization group approach to the light-front Hamiltonian", Phys. Rev. D 53, 7239 (1996).
4. T. Sugihara and M. Yahiro, "Nonperturbative renormalization group in a light-front three-dimensional real scalar model", Phys. Rev. D 55, 2218 (1997).
5. T. Sugihara, "Renormalization group approach to light-front Hamiltonian", Ph. D. thesis, Kyushu University, Mar. 1997.
6. T. Sugihara, "Variational calculation of the effective action", Phys. Rev. D 57, 7373 (1998).
7. T. Sugihara and M. Taniguchi, "Manifestation of the true vacuum in discrete light cone quantization", Phys. Rev. Lett. 87, 271601 (2001).
8. T. Sugihara, "Lattice chiral symmetry with hopping interactions", Phys. Rev. D 68, 034502 (2003).
9. T. Sugihara, "Vector and chiral gauge theories on the lattice", hep-lat/0310061.
10. T. Sugihara, "Density matrix renormalization group in a two-dimensional $\lambda \phi^4$ Hamiltonian lattice model", JHEP 0405, 007 (2004).
11. T. Sugihara, "Matrix product representation of gauge invariant states in a Z_2 lattice gauge theory", JHEP 0507, 022 (2005).

Non-refereed papers

1. T. Sugihara, "Two-dimensional $SU(N)$ gauge theory on the light cone", *Field Theory and Mathematical Physics* (Min Eum Sa, Seoul, 1994), 286.
2. T. Sugihara and M. Yahiro, "Two-dimensional $SU(N)$ gauge theory on the light cone", CONFINEMENT 95 (World Scientific), 295 (1995).
3. T. Sugihara and M. Yahiro, "A Nonperturbative Renormalization group procedure for light-front Hamiltonian", Prog. Theor. Phys. Suppl. 120, 271 (1995).
4. T. Sugihara, Soryushiron-Kenkyu 92, C54 (1995).
5. T. Sugihara and M. Yahiro, "Tamm-Dancoff Approximation to Light-Front Field Theory", Proceedings of the XVII RCNP International Symposium on Innovative

- Computational Methods in Nuclear Many-body Problems (World Scientific), 264 (1998).
6. T. Sugihara, "Variational Calculation of the Effective Action", Proceedings of the XVII RCNP International Symposium on Innovative Computational Methods in Nuclear Many-body Problems (World Scientific), 269 (1998).
 7. T. Sugihara, "Variational Calculation of the Effective Action", Proceedings of the Workshop on Nonperturbative Methods in Quantum Field Theory (World Scientific), 187 (1998).
 8. T. Sugihara, "Variational Calculation of the Effective Action", AIP Conf. Proc. 494, 291 (1999).
 9. T. Sugihara, "Basis optimization renormalization group for quantum Hamiltonian", Nucl. Phys. Proc. Suppl. 108, 267 (2002).
 10. T. Sugihara, "Density matrix renormalization group and spontaneous symmetry breaking", Soryushiron-Kenkyu 107, E72 (2003).
 11. T. Sugihara, "Chiral symmetry on a lattice with hopping interactions", Nucl. Phys. Proc. Suppl. 129, 510 (2004).
 12. T. Sugihara, "Realization of lattice chiral symmetry with hopping interactions", Color Confinement and Hadrons in Quantum Chromodynamics (World Scientific), 514 (2004).
 13. T. Sugihara, "Lattice representation of vector and chiral gauge theories", hep-lat/0402028, Soryushiron-Kenkyu 109, F75 (2004).
 14. T. Sugihara, "Density matrix renormalization group approach to a two-dimensional bosonic model", hep-lat/0408016, Nucl. Phys. Proc. Suppl. 140, 791 (2005).
 15. T. Sugihara, "Matrix product variational formulation for lattice gauge theory", hep-lat/0411017, AIP Conf. Proc. 756, 305 (2005).
 16. T. Sugihara, "Gauge invariance in a Z_2 hamiltonian lattice gauge theory", PoS (LAT2005) 181.

Book

1. T. Sugihara, Japanese translation of "Theory of Computing" written by E. Kinber and C. Smith, Pearson Education (2002).

Talks in Japan Physical Society meetings (speakers are in bold face)

1. **T. Sugihara**, M. Matsuzaki, and M. Yahiro, "Two-dimensional QCD on the light cone", the 49-th annual meeting, Fukuoka Institute of Technology, Mar. 28, 1994.
2. **T. Sugihara** and M. Yahiro, "Nonperturbative renormalization group for

- Hamiltonian on the light cone”, the 50-th annual meeting, Kanagawa Univ., Mar. 29, 1995.
3. **T. Sugihara** and M. Yahiro, “Nonperturbative renormalization group on the light cone”, 1995 section meeting, Chubu Univ., Sep. 20, 1995.
 4. T. Sugihara and M. Yahiro, “Tamm-Dancoff renormalization and symmetry breaking in a light-cone quantized (1+2)-dimensional real scalar model”, 1996 section meeting, Saga Univ., Oct. 9, 1996.
 5. T. Sugihara, “Variational calculation of the effective action in DLCQ”, 1997 section meeting, Tokyo Metropolitan Univ., Sep. 20, 1997.
 6. T. Sugihara, “Variational calculation of the effective action in DLCQ”, the 53-th annual meeting, Toho Univ., Apr. 2, 1998.
 7. T. Sugihara, M. Taniguchi, and K. Yamawaki, “Microcausality in a light-cone field theory”, the 55-th annual meeting, Kinki Univ., Mar. 30, 2000.
 8. T. Sugihara, M. Taniguchi, and K. Yamawaki, “The role of DLCQ zero mode in spontaneous symmetry breaking”, the 56-th annual meeting, Chuo Univ., Mar. 30, 2001.
 9. T. Sugihara, “Application of basis optimization method to Heisenberg Chains”, 2001 section meeting, Okinawa International Univ., Sep. 22, 2001.
- Presentations in workshops and conferences (speakers are in bold face)**
1. T. Sugihara, M. Matsuzaki, and M. Yahiro, “Two-dimensional SU(N) gauge theory on the light-cone”, Symposium on field theory and mathematical physics, Sorak Park Hotel, Korea, Jun. 27-Jul. 2, 1994.
 2. T. Sugihara and M. Yahiro, “A nonperturbative renormalization group procedure for light-front Hamiltonian”, Yukawa Institute for Theoretical Physics Workshop, Kyoto Univ., Japan, Oct. 30, 1994.
 3. T. Sugihara and M. Yahiro, “Tamm-Dancoff renormalization group and broken symmetry of the light-front real scalar model”, 6'th International Workshop on Light-Front Quantization and Non-Perturbative QCD, Iowa State Univ., U.S.A., Jun. 3-14, 1996.
 4. T. Sugihara, “Variational Calculation of effective action”, International workshop on “Recent Developments in QCD and Hadron Physics”, Yukawa Institute for Theoretical Physics, Kyoto Univ., Dec. 16-18, 1996.
 5. T. Sugihara and M. Yahiro, “Tamm-Dancoff Approximation to Light-Front Field Theory”, XVII RCNP International Symposium on Nuclear Computational Methods in Nuclear Many-Body Problems, RCNP, Osaka university, Nov. 10-15, 1997.

6. T. Sugihara, "A variational calculation of the effective action", XVII RCNP International Symposium on Nuclear Computational Methods in Nuclear Many-Body Problems, RCNP, Osaka university, Nov. 10-15, 1997.
7. T. Sugihara, "Variational calculation of the effective action", Workshop on Methods in Non-Perturbative Field Theory, The University of Adelaide, Australia, Feb. 2-13, 1998.
8. T. Sugihara, "Variational calculation of the effective action", New Directions in Quantum Chromodynamics, Concorde Hotel, Kyungju, Korea, Jun.21 - 25, 1999.
9. T. Sugihara, "Basis optimization renormalization group for quantum Hamiltonian", European Center for Theoretical Physics, Trent, Italy, Sep.3-11, 2001.
10. T. Sugihara, "Density matrix renormalization and spontaneous symmetry breaking", YITP workshop (Quantum Field Theory and Related Topics), Kyoto University, Kyoto, Japan, Dec. 18-20, 2002.
11. T. Sugihara, "Chiral symmetry on a lattice with hopping interactions", Lattice2003, Tsukuba, Japan, Jul. 15-19, 2003.
12. T. Sugihara, "Realization of lattice chiral symmetry with hopping interactions", Confinement2003, RIKEN, Wako, Japan, Jul. 21-24, 2003.
13. T. Sugihara, "Density matrix renormalization group approach to a two-dimensional bosonic model", Lattice2004, Fermilab, U.S.A., Jun. 21-26, 2004.
14. T. Sugihara, "Matrix product variational formulation for lattice gauge theory", Confinement2004, Sardinia, Italy, Sep. 21-25, 2004.
15. T. Sugihara, "Gauge invariance in a Z_2 hamiltonian lattice gauge theory", Lattice2005, Trinity College, Dublin, Ireland, Jul. 25-30, 2005.